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WAR DEPARTMENT

OFFICE OF THE CHIEF SIGNAL OFFICER

WASHINGTON

July 15, 1939.

SIGNAL CORPS INFORMATION LETTER
NO. 22

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I

INTRODUCTION

1. The Signal Corps Information Letter (SCIL) is issued quarterly. Its primary purpose is to keep all Signal Corps officers in touch with current activities and policies of general interest.
2. The SCIL will be compiled mainly from information regularly available in this office. However, all Signal Corps officers and agencies are invited to submit special items of general interest. Such items should reach the Chief Signal Officer not later than the 1st day of each quarter for inclusion in the quarterly issue.
3. The SCIL is not a directive and will not replace the instructions and information on specific activities normally issued to Signal Corps agencies directly concerned in such activities. It will, however, summarize instructions and information on important matters for the general information of Signal Corps personnel.
4. Requisitions for new types of equipment will not be submitted on the basis of information contained in the SCIL.
5. The SCIL will be distributed as indicated on the last page of this issue.
6. Restricted. - A document will be classified and marked "Restricted" when the information it contains is for official use only or of such nature that its disclosure should be limited for reasons of administrative privacy or should be denied the general public. The "Restricted" mark will be placed on a document only by authority of a commissioned officer. (A.R. 330-5, par. 7).

II

FISCAL

7. H.R. 4630, as finally approved, provides \$7,828,804 for Signal Service of the Army for the fiscal year 1940. The amount includes \$1,490,071 for SSA obligations under the first increment of the Aviation Expansion Program. Exclusive of the Aviation Expansion Program, \$6,338,733 was provided for normal SSA requirements. This is a reduction of \$952,917 as compared to the amount appropriated for SSA for the fiscal year 1939. The decrease is more than covered by a reduction in aircraft communication equipment.

H.R. 4630 also provided \$166,605 for salaries in the Office of the Chief Signal Officer. This will provide a small increase of \$8,610 for the employment of five additional employees in this office.

H.R. 5219, Supplemental Appropriation, provided \$2,571,250 for the purchase of tactical equipment to meet organizational shortages.

In addition to the above, a supplemental appropriation bill, H.R. 6791, is now being considered by the Congress. This bill makes provision for additional funds under Signal Service of the Army and relates principally to the Aviation Expansion Program.

H.R. 6260, now before the Congress, includes, among other items, provision for \$200,000 for the Alaska Communication System. This is an increase of \$12,400 over the amount made available for the System in the fiscal year 1939. The increase is to provide principally for new equipment to facilitate the handling of increased volume of traffic. The traffic handled by the System, commercial and Government, has increased steadily and is at record levels.

8. The various estimates for the fiscal year 1941, SSA, Salaries, Office of the Chief Signal Officer, Alaska Communication System, etc., have been submitted to the War Department. It is expected that the Budget Advisory Committee hearings on these estimates will be scheduled sometime during the first ten days of July.

III

COMMUNICATION LIAISON DIVISION

CONFIDENTIAL

9. The final draft of the revised Executive Orders assigning frequencies for use by all Government departments and agencies has reached practical completion, having been submitted recently in its final form to the President for signature. This project, of the greatest concern to this Division and of importance to the War Department generally, has engaged a very considerable part of the time and energy of this Division for a period of over three years. An immense amount of detailed work was required in going over the very considerable number of frequencies and determining the qualifications and limitations to be imposed in each case to attain a final simplified order which would be of the maximum value and use to all concerned.

When signed by the President and printed, the new order will be available for limited issue as has been the practice in the past. Many important changes will be found in the form as well as the contents when compared with the preceding Executive Order which was issued in 1935.

After careful and detailed study, frequency authorizations have been made as concise and definite as was possible in an extensive document of this nature. All qualifications of a restrictive character or information notes of an essential nature are indicated in as clear a form as was possible within the necessary limitations of space. Designators as used in the preceding Executive Orders were completely replaced by a very limited number of symbols, the significance of which is largely self-evident. An essential change has been made in the manner of listing frequency assignments. Frequencies are assigned to a class or classes of stations rather than to individual or groups of stations as has been the practice. Also the type of emission of the widest modulation character authorized in each instance has been indicated in a separate column.

It is believed that in its new form, with the addition of new material as well as many new frequency assignments, this Executive Order will be found of much more value and practicable use than any that have preceded it.

IV

MILITARY PERSONNEL

10. The following named officers have received orders for new assignments, to be effective in the summer of 1939:

<u>Name</u>	<u>New Station</u>
Colonels	
Frank D. Applin	Puerto Rican Department
George L. Van Deusen	Signal Officer, Hawaiian Dept.
Laurence Watts	Signal Officer, Panama Canal Dept.
Lt. Cols.	
Spencer B. Akin	OCSigO
Harry C. Ingles	Signal Corps Board, Fort Monmouth
Leon E. Ryder	National Guard, Ypsilanti, Mich.
Donald B. Sanger	Signal Officer, 6th Corps Area, Chicago
Clyde V. Simpson	Signal Officer, 1st Cav. Div., Fort Bliss
Majors	
George I. Back	Signal Corps Board, Fort Monmouth
Calvin H. Burkhead	Puerto Rican Department
Edgar L. Clewell	Student, Command & General Staff School
Murray B. Dilley	Post Signal Officer, Fort Leavenworth
John J. Downing	Signal Officer, 1st Div., Fort Hamilton
Walter C. Ellis	National Guard Bureau, Washington
Robert G. Forsythe	Hq. 8th Corps Area, Fort Sam Houston
Edward F. French	War Department Message Center, Washington
John H. Gardner, Jr.	Aircraft Radio Laboratory, Wright Field
Ralph R. Guthrie	Hq. 2nd Corps Area, Governors Island
Lester J. Harris	San Francisco Sig.C. Procurement District
John M. Heath	Chicago Sig.C. Procurement District
Clay I. Hoppough	Hawaii
Gordon C. Irwin	New York Sig.C. Procurement District
Robert N. Kunz	ROTC Univ. of Michigan, Ann Arbor
James Lawrence	New Jersey National Guard, Orange
Fred G. Miller	Hq. 5th Corps Area, Fort Hayes
Joe J. Miller	Org. Res., 9th Corps Area, San Francisco
Richard B. Moran	OCSigO
George W. Morris	Org. Res., 2d Corps Area, Governors Island
Will V. Parker	Texas National Guard, San Antonio
Lloyd C. Parsons	Post Signal Officer, Fort Benning
Wilton B. Persons	Office Chief of Staff, Washington
Edwin R. Petzing	Student, Command & General Staff School
Carroll A. Powell	Hawaii

NameNew Station

Majors

William O. Reeder	Student, Command and General Staff School
Harry Reichelderfer	Student, Army Industrial College
William S. Rumbough	Hawaii
Stephen H. Sherrill	Office of the Chief of Staff, Washington
Joshua A. Stansell	Instructor, United States Military Academy
Frank E. Stoner	Student, Army Industrial College
James C. Van Ingen	Signal Corps Radio Section, San Antonio Air Depot
Harry L. Vitzthum	Post Signal Officer, Maxwell Field
Arthur J. Wehr	OCSigo
Alexander E. Whitworth	Post Signal Officer, Fort Sill
Robert A. Willard	Pennsylvania National Guard, Pittsburgh

Captains

William L. Bayer	Student, Command and General Staff School
Harold O. Bixby	War Department Message Center, Washington
Robert E. Burns	OCSigo
Wiley V. Carter	Post Signal Officer, Fort Knox
Maurice P. Chadwick	Hawaii
Carter W. Clarke	Student, Army War College
Thomas J. Cody	Student, New Jersey Bell Telephone Co. School Newark
Victor A. Conrad	Student, Command and General Staff School
W. Preston Corderman	Office of the Chief of Staff, Washington
William J. Daw	Student, Army Industrial College
Wesley T. Guest	OCSigo
Milton T. Hankins	Student, Command and General Staff School
Tyree R. Horn	1st Signal Company, Fort Monmouth
Francis E. Kidwell	Faculty, Signal Corps School
Samuel S. Lamb	Faculty, Signal Corps School
Emil Lenzner	Signal Corps Laboratories, Fort Monmouth Fort Monmouth
Albert J. Lubbe	Fort Monmouth
Kenneth F. March	Student, Signal Corps School
Dwight L. Mulkey	Signal Corps Photographic Laboratory, Washington
Howard S. Paddock	OCSigo
Charles S. Stodter	March Field
Louis J. Tatom	Panama
Merton G. Wallington	Faculty, Signal Corps School

1st Lieutenants

William H. Bache (Inf)	2d Signal Company, Fort Sam Houston
Charles M. Baer	Chanute Field, Ill.
Richard M. Bauer (Cav.)	Philippine Dept.
Walter B. Bess	Hawaii

NameNew Station

1st Lieutenants

John M. Brown (Inf)	1st Signal Company, Fort Monmouth
R. Warren Davis	Hawaii
Roscoe C. Huggins (Inf)	Student, Signal Corps School
Eugene A. Kenny (Inf)	Post Signal Officer, Fort Bragg
William A. Joyce	Student, Signal Corps School
Harry J. Lewis	Student, Academy of Motion Picture Arts and Sciences, Hollywood, Calif.
William Little	Student, Harvard Graduate School of Business Administration
Lassiter A. Mason (FA)	Philippine Department
Arthur A. McCrary	Student, Signal Corps School
Frank W. Moorman, (Inf)	4th Signal Company, Fort Des Moines
Russell F. Nicholls	Kelly Field, Texas
Eugene R. Patterson	Student, Ohio State University
Walter A. Simpson	Student, New Jersey Bell Telephone Company School, Newark, N.J.
Andrew D. Stephenson	Student, Signal Corps School
Francis F. Uhrhane	Aircraft Radio Laboratory, Wright Field
Victor H. Wagner	Hawaii
Kenneth F. Zitzman	Instructor, United States Military Academy

2nd Lieutenants

Alfred E. Diamond	Student, Signal Corps School
David T. Griffin	Student, Signal Corps School
Robert W. Griffin	Student, Signal Corps School
Jesse F. Thomas	Student, Air Corps Primary Flying School, Randolph Field

11. Thirty graduates of the United States Military Academy, Class of 1939, have been assigned to the Signal Corps:

2nd Lieutenants

Wilbur W. Bailey
 John B. Bestic
 Philip M. Breitenbucher
 Charles U. Brombach
 Hall Cain
 John A. Chechila
 Walter C. Dolle
 Hugh A. Griffith, Jr.
 George E. Howard, Jr.
 Robert P. Haffa
 Burrell W. Helton
 Allen F. Herzberg
 George M. Higginson
 John G. Johnson
 James B. Knapp
 Edward H. Kurth

2nd Lieutenants

Milton A. Laitman
Ralph L. Lowther
John G. McDavid
Richard S. Morrison
Wayne L. O'Hern
Paul R. Okerbloom
Leonard N. Palmer
George E. Pickett
John P. Scroggs
Robert W. Studer
Robert C. Twyman
John G. Urban
Wm. M. Van Harlingen, Jr.
Robert M. Wray

It is expected that Lieutenants Chechila, Griffith, Haffa, Herzberg, Wray, Okerbloom Knapp, Twyman, Morrison and Palmer will be assigned to duty and training with the Air Corps.

12. The following named second lieutenants, Reserve Corps, were appointed in the Regular Army, July 1, 1939, and assigned to the Signal Corps, with station at Fort Monmouth:

2nd Lt. Robert R. Christofk
2nd Lt. Glen S. Waterman

13. The following named officers have been detailed in the Signal Corps and assigned to duty and station as indicated:

Captains

James L. Bolt (Inf)	Fort Monmouth
James E. Totten (Inf)	Panama
Lee R. Williams (Inf)	Mitchel Field, Long Island

1st Lieutenants

Robert H. Bennett (Inf)	Student, Signal Corps School
Thew J. Ice, Jr. (Inf)	Panama
Ewing C. Johnson (Cav)	Student, Signal Corps School
Ralph D. McKinney (Inf)	Student, Signal Corps School
Wm. P. Turpin, III (Inf)	Student, Signal Corps School

2nd Lieutenants

Charles J. Harrison (Inf)	Student, Signal Corps School
Harold McD. Brown (Inf)	Student, Signal Corps School
Winfield L. Martin (Inf)	Student, Signal Corps School
Maurice W. Musgrave (Inf)	Student, Signal Corps School
George W. Rhyne (Inf)	Student, Signal Corps School
George M. Simmons (Inf)	Student, Signal Corps School
Victor C. Warren (Inf)	Student, Signal Corps School

14. The legislation referred to in the April, 1939 issue of SCIL was the Vitalization Program. This legislation is still pending in Congress and has been subject to much debate. Many changes have been proposed, the details of which have been covered generally in the service papers. It is still impossible at this time to envisage the full import or to forecast the effect of the program, if enacted into law.

V.

CIVILIAN PERSONNEL

15. As a result of instructions contained in letter from this office dated January 16, 1939, subject, "Promotions", recommendations for the promotion of 296 employees in the Signal Service at Large were received from the administrative heads of all Signal Corps activities. If approved these promotions would require an additional expenditure of \$27,000 for salaries and wages. After consideration of these recommendations and all other circumstances, the Civilian Personnel Board recommended that not more than 25 per cent of the total number of employees be promoted and that the promotion rules adopted for the fiscal year 1939 be applied to fiscal year 1940 promotions. The recommendations of the Civilian Personnel Board were approved by the Chief Signal Officer and the promotions of 203 employees have been made or are being processed through required channels.

16. Mr. David A. Burke, Civilian Assistant to the Signal Officer, Second Corps Area, died on May 30, 1939. Mr. Burke was born at Kingston, New York on January 1, 1884. He attended the College of the City of New York, Cooper Union and Brooklyn Polytechnic Institute and received a degree of B.S. in Civil Engineering. Mr. Burke was appointed a clerk, stenographer and typewriter in the Signal Service at Large on November 16, 1906 in the Office of the Chief Signal Officer, Department of the East, New York City. On May 22, 1917 he was promoted to Chief Clerk, Office of the Chief Signal Officer, A.E.F., and sailed for Paris, France on May 24, 1917. He was commissioned 1st Lieutenant, Signal Reserve Corps on June 7, 1917 and was called to active duty July 20, 1917 while in France. On April 19, 1918 he was appointed a Captain in the Signal Reserve Corps. He was appointed a Major, Signal Corps (temporary) October 22, 1918 and a Lieutenant Colonel, Signal Corps (temporary) May 15, 1919. On August 20, 1919 he was ordered to the United States and he sailed from Brest, France on the S.S. Von Steuben on August 24, 1919. After a short period of service in the Office of the Chief Signal Officer, Washington, he was ordered to duty as assistant to the Department Signal Officer, Eastern Department, New York City.

Mr. Burke was honorably discharged from the military service on October 31, 1919 and was reinstated as Civilian Assistant in the Signal Service at Large, Signal Office, Eastern Department, New York City on November 1, 1919, which position he held until his death. Mr. Burke was also appointed a Lieutenant Colonel in the Signal Reserve on December 12, 1924 and held that commission until his death.

During his military service he participated in the Toul Defensive Sector and received a meritorious service citation certificate from the Commanding General, American Expeditionary Forces for especially meritorious service. He was also an officer of the Academy of Fine Arts (French) and was awarded the Purple Heart decoration.

Mr. Burke is survived by his widow and two children, a son and a daughter. Interment was made in Arlington National Cemetery on June 3, 1939.

As an officer during the World War, later in the Signal Corps Reserve and as a civilian employee, Mr. Burke's high ability and devotion to duty won the admiration and respect of all whose privilege it was to be associated with him.

17. On May 4, 1939, the Alaska Communication System suffered the loss of its brilliant Associate Radio Engineer, Mr. George R. Galletly. While testing a transmitter in the Seattle shop of the System, Mr. Galletly accidentally touched a wire carrying 3000 volts, and although artificial respiration was begun instantly by those with whom he was working, and every possible measure was taken to revive him by the physicians who were immediately summoned, their efforts were unavailing.

Mr. Galletly was born in Florence, South Carolina. He attended the Army Student Officers' Training Corps at Plattsburg, New York in 1918, and after discharge from the service, he joined the engineering department of the General Electric Company in New York. In 1919 he was a radio instructor at the Army radio school at Columbia, S.C. He returned to General Electric, and later was a mathematics, radio and chemistry instructor in schools at Simpsonville, S.C. He installed the first commercial broadcasting transmitter in South Carolina, at Greenville. In 1924 he became assistant radio engineer of the Signal Corps in Chicago, and in 1925 was transferred to this System. Mr. Galletly was largely responsible for the efficient conversion of the System from cable to radio operation in 1930 and 1931. Possessed of unusual versatility, Mr. Galletly was constantly engaged in improving existing equipment and developing new equipment. His enthusiasm for his work led him to disregard ordinary hours of duty, and when given a technical problem, he was unrelenting until it had been solved.

In addition to his remarkable technical qualifications, Mr. Galletly was endowed with the attributes of a true friend, and there was none who knew him well who did not have a special affection for him. He is survived by his widow and a six year old daughter of Seattle, and a brother residing in Columbia, South Carolina. Funeral services were held in the Galletly home on May 8, 1939, and interment made in Seattle.

DEVELOPMENT OF EQUIPMENT

NON RADIO:

18. Two service test models of switchboards BD-89, developed as a replacement for switchboard BD-14, were recently turned over to the Signal Corps Board for service test by the First Signal Company. Upon completion of service tests by the First Signal Company, it is intended to ship both models to the Second Signal Company for further tests. By following this procedure, it is hoped that all deficiencies in the equipment will be developed during the tests, thus forestalling the possibility of standardizing the item prematurely.

The construction of the BD-89 is quite different from that of the BD-14 both as to method of operation and capacity. The military characteristics under which the BD-89 was developed are as follows:

The switchboard to be designed for common battery, local battery operation and to be capable of intercommunication with other manual and automatic telephone systems. In order to simplify maintenance, procurement and supply, the switchboard should be in so far as practicable of general commercial design and manufacture, and all parts of one switchboard should be interchangeable with like parts of another.

The equipment to consist of one complete operator's position in which all switching apparatus shall be mounted, and a terminal cabinet containing the necessary terminal and protective apparatus. The equipment to be so arranged as to facilitate rapid installation and removal from service.

Each switchboard to be equipped with 40 common battery line circuits, 20 magneto line circuits, 10 miscellaneous and interposition trunk circuits and 13 universal cord circuits.

The switchboard to have as high degree of portability as practicable consistent with service requirements, and to be capable of being operated either in a vehicle or on the ground.

The switchboard to be operable from a 24-volt storage battery and to be equipped for both magneto and machine ringing.

The apparatus to be of sufficient strength and ruggedness to withstand field service conditions and to be inclosed in a cover or case capable of giving full protection to the apparatus under all service conditions likely to be encountered in the field.

To be capable of being operated either singly or in parallel with other like units. The cords to be of such length as to permit operation of two switchboards in parallel without the use of interposition trunks.

AIRCRAFT RADIO:

19. A number of trailing wire discharger units, capable of being reeled in or out from the pilot's cockpit by means of a modified MC-125 remote control, have been fabricated by Aircraft Radio Laboratory and are now undergoing service tests on inter-depot transport planes and also on planes at Langley Field.

20. Extensive tests are being made on vertical rod antennas for the purpose of replacing the present "T" type antennas used for compass sensing on most aircraft. This type has less drag and it is believed less tendency to ice up than the present stub mast and "T" type. The pickup from rod antennas 6 to 8 feet in length is sufficient for satisfactory compass operation.

21. An improved marker beacon receiver has been developed to operate on the present C.A.A. airways facilities. This receiver is known as the BC-341 (12 volt power supply) and tests on laboratory models indicate that approximately the same sensitivity is obtained on the C.A.A. 5-watt cone-of-silence marker with this new receiver as was obtained on the BC-301 type receiver when used on the Army type BC-302 marker transmitter. This new receiver is therefore satisfactory for use with both military and civil airways facilities.

22. In order to increase the knowledge of Wright Field personnel with commercial types of instrument landing systems, arrangements were made for the loan of the necessary equipment to test a complete Bendix Instrument Landing System and a complete Air-Track Instrument Landing System. Both equipments were installed at Patterson Field and, extensive flights have been made using the Bendix System but, due to transmitter failure, the Air-Track System was only flown for a short time. Results of these tests will be reported at a later date.

23. In view of the fact that certain aircraft now under procurement and those contemplated for future procurement will have service ceilings up to 35,000 feet, tests have been conducted at the Aircraft Radio Laboratory to determine if radio equipment now being procured will meet this requirement, since present specifications call for tests up to 27,000 feet only (10" of mercury). Tests on the sample SCR-240 equipment and interphone amplifiers BC-212-B and BC-347 indicated normal operation in every respect under this pressure. Specifications for all aircraft radio equipment are being changed to call for tests at this lower pressure of 7" of mercury (35,000 ft.).

24. A specification has been prepared converting the radio compass SCR-242-B into a compass having a small loop in a zeppelin type housing, replacing the LP-13-B and rotatable mounting GS-8-B. A remote shaft crank and a bearing indicator connect to the loop through tuning shaft M^C-124, thereby providing remote loop control and bearing indication. This modified compass will be known as the SCR-242-C, and will be similar to radio compass SCR-273 except that the latter has two remote control boxes.

25. Recent developments in frequency modulation have been witnessed by Army personnel and the claims for this system as compared to amplitude modulation demonstrated in the ultra-high frequency band. Frequency modulation has a definite advantage in noise and interference suppression over amplitude modulation. Contracts have been let for the purchase of three frequency modulated aircraft equipments from the General Electric Company, for further tests by the Aircraft Radio Laboratory.

GROUND RADIO:

26. The first model of the SCR-197 set (truck and trailer set for Air Corps) has been delivered by the contractor and is undergoing laboratory performance tests. The design has been approved for production of the remaining number (8) on the contract.

27. The interphone system for M2A3 tanks, service tested and approved by the Infantry Board, has not met with approval by the Cavalry for combat car M1A1. An attempt is now being made to harmonize the requirements of the two arms in order that a single design may be worked out that will be acceptable to both.

28. Considerable difficulty has been experienced by the contractor for radio meteorographs in meeting the accuracy and other requirements of the specification. Although the several elements of the meteorograph can be made to meet the accuracy requirements as elements before final and complete assembly, few of the assembled units were acceptable in this respect. Rather intensive study of the subject has thus far failed to reveal the cause for the adverse effect resulting from the assembly operation. Pending determination of the cause, it is probable that a lower order of accuracy may have to be accepted if any meteorograph service is to materialize.

VII

TRAINING

29. Signal Corps ROTC Camps will be held during the summer of 1939 with total expected student attendance of 176 distributed as follows:

<u>Camp</u>	<u>Schools Represented</u>	<u>No. Students for Camp</u>	<u>Signal Corps Instructors</u>
Fort Monmouth 58 students	Mass. Inst. Tech.	30	Major K. B. Lawton
	Cornell	17	Capt. R. W. Reynoldsford
	Carnegie Tech.	11	Capt. H. H. Cleaves
Fort Benning, Ga. 18 students	Georgia Tech.	18	Lt. Col. J. B. Haskell Capt. G. L. Richon
	Univ. of Illinois	17	Capt. K. S. Stice
Camp Custer Mich. 70 students	Univ. of Michigan	11	Capt. C. H. Sturges
	Univ. of Wisconsin	14	Capt. M. G. Wallington
	Univ. of Minnesota	13	Capt. C. L. Strike
	Ohio State Univ.	15	Capt. T. H. Maddocks
			1st Lt. J. F. Brooke Jr.
Camp Bullis Tex. 30 students	Texas A. & M.	30	Major L. S. Stickney
	Univ. of Calif.	None	Lt. Col. J. D. B. Lattin
None 10 students eligible but camp to be deferred to 1940.			
		Total	176

30. The following Signal Corps CMT Camps are scheduled for the coming summer, each to be conducted largely by Signal Corps Reserve officers:

	<u>Expected Attendance</u>
II Corps Area at Fort Dix, N.J.	75
III Corps Area at Fort Meade, Md.	250
V Corps Area at Fort Benjamin Harrison, Ind.	135
Total	460

VIII

SUPPLY

31. Appendix C of the Signal Corps General Catalog: The printing of the revised Appendix C of the Signal Corps General Catalog has been delayed but it is expected that same will be received from the printer and distributed during the month of July.

32. Aviation Expansion Program: During the past quarter a considerable amount of work has been accomplished in connection with the initiation of the procurement of communication equipment required in connection with the Aviation Expansion Program. Opening of bids for the major items involved in this program will be completed prior to July 15, 1939. The Chief of the Air Corps has requested that radio equipment for installation on new airplanes be delivered to the airplane factories four months prior to the scheduled date of delivery of the airplanes. In some cases the early need for this equipment will place a heavy burden on the radio manufacturers concerned but it is believed that deliveries will be effected in time to meet the requirements of the Air Corps.

33. Coil Sets and Transmitter Tuning Units Need Not Accompany Under-viceable Radio Receivers of Airplane Radio Sets: Supply Letter No. 103 was issued during the quarter. This letter covered a change in par. 6 b (1) Circular No. 1-3, OCSigO, making it optional instead of mandatory that plug-in coil sets and coil units accompany the radio receivers of airplane radio sets when the receivers are shipped to an air depot for repair and return, or replacement.

34. Item Procurement Plans, Additional: The Assistant Secretary of War has approved the item plans of the Chief Signal Officer for the wartime procurement of the following additional critical items:

Frequency Meter BC-221-A
Headset P-18
Head and Chest Set HS-17-A
Head and Chest Set HS-19
Radio Receiver BC-301
Reel Cart RL-16
Switchbox BC-318
Telephone EE-8
Wire W-110-B

35. Photographs of Signal Corps Items: Photographs covering a number of Signal Corps items have been furnished to the Signal Corps procurement districts. It is planned to eventually furnish procurement districts with

photographs of all Signal Corps items on Tables of Basic Allowances and the major components thereof as well as items of non-organizational equipment which present a procurement problem in time of war.

36. San Antonio General Depot: In accordance with the provisions of letter from The Adjutant General's Office dated May 12, 1939, control of the Eighth Corps Area General Depot was transferred from the Commanding General, Eighth Corps Area to the War Department, effective July 1, 1939, and redesignated as "San Antonio General Depot".

IX

FIXED SIGNAL COMMUNICATION SYSTEMS

37. Radio Construction, Operating and Maintenance: Contracts have been awarded for the following equipment from F.Y. 1939 funds:

- a Thirty-one each 350-watt medium frequency transmitter to replace the present BC-127 sets in the administrative system.
- b Seven each 400-watt ten-channel high frequency transmitters for the Army Airways Communication System.
- c One-hundred thirty each Hammarlund Super-Pro Receivers for the Administrative and Airways Systems.
- d Twenty-seven gasoline driven power units for emergency power installations.

Work is progressing on eight new radio range installations in the continental United States and two in foreign departments. A new communications building is also under construction or proposed at most of these stations.

A new primary frequency standard has been installed at the frequency monitoring station at Fort Omaha, Nebraska and shows a marked improvement in accuracy and stability over the former installation.

38. Wire Systems: New Telephone construction being performed from funds made available by the PWA-WPA is progressing satisfactory throughout the United States.

During F.Y. 1940 approximately four million dollars will be available for telephone and fire control construction and rehabilitation incident to Air Corps Expansion, Panama Augmentation and Seacoast Defense Programs. This represents over four times the amount of construction performed during F.Y. 1939 and is more than double the amounts that were available in the largest previous year (1932-33).

PHOTOGRAPHIC SERVICE

39. During the past quarter, orders were placed for the purchase of 265 - 16mm sound projectors for use by the Organized Reserve and R.O.T.C.

40. Two 16mm prints of all sound training films were processed and distributed to each corps area headquarters for use by the Organized Reserve and R.O.T.C.

41. Training Film Field Unit No. 1 completed the field work on Training Film No. 51 at Frankford and Picatinny Arsenals. Major M. E. Gillette, officer in charge of the unit, is at Fort Benning, Georgia directing the field photographic work on Training Film Projects 70, "School of the Soldier, Dismounted, Without Arms" (revision) and 77, "Floating Bridge Construction".

42. 250 copies of a trailer publicizing the Enlisted Reserve were made and distributed to the corps areas for use in post and commercial motion picture theatres.

XI

WAR DEPARTMENT MESSAGE CENTER

BY WIRE, RADIO AND AIR

43. During the past quarter, traffic in the War Department Message Center shows a marked increase. On June 29th, the number of messages handled reached the all time high of 4,585. Contemplated expansion after July 1st may produce a peak traffic load during the month of July greater than any yet recorded. Changes in operating positions and added experience for operators have resulted in high efficiency in the volume of traffic handled. An opportunity to test the capacity of the system as now instituted was afforded at the conclusion of the four hour holiday granted all Government personnel during the visit of the King and Queen of Great Britain. When the War Department Message Center was re-opened, accumulated traffic was received and sent at extremely high speeds. In the period from 3:00 to 4:30 PM, over radio circuits only, a total of 493 average length messages were received (transcribed) by fourteen operators, which is approximately twenty-four messages per operator per hour.

44. A circuit was instituted in accordance with War Department instructions to work with the Brazilian Army Station PTB2, Belem, Brazil, on a frequency of 12075 KC. This circuit has functioned perfectly since its inception despite the linguistic difficulties involved.

45. The construction program for War Department Message Center installations has been almost completed. For the War Department Message Center operating room, the new emergency power system installation was completed with rewiring of the power distribution system. Old twisted pair transmission line for the monitor antenna system has been replaced by concentric receiving line. At the receiving station, racks and panels were rebuilt to accommodate six new replacement receivers.

46. At the transmitting station, the high frequency 1 KW transmitter to work in the frequency band from 12 to 36 megacycles was completed, tested and made available for transmitting use. This set uses two 833 tubes in the output stage. Construction on an ultrahigh frequency signal transfer system is almost completed. This system is to determine the feasibility of transferring signals from the remote receiving station to the Operating Section on an ultrahigh frequency radio channel.

47. An unique development resulted from the necessity of providing a rhombic antenna for the Washington-Seattle circuit. On the same poles that support the rhombic antenna directed at Chicago, a second rhombic antenna was erected, spaced approximately thirty feet below the other. The transmitter used on the Washington-Chicago circuit is connected to the lower antenna, while the upper antenna is connected to the transmitter used on the Washington-Seattle circuit. These circuits function simultaneously or separately without interference.

48. On June 8th, twenty-six student officers from the Post Graduate Communications School at Annapolis visited the War Department Message Center and made a complete inspection of the Operating Section, Transmitting Station and the Receiving Station.

XII

FORT MONMOUTH

49. Fifty-First Signal Battalion: During the quarter ending June 30, 1939, 54 enlisted men of the Battalion attended the Signal Corps School; 18 were graduated, 3 were given certificates and the remaining 33 men will complete their courses in the school during the 1939-40 school year.

The battalion participated in the Army Day parade on April 8th in New York City, in a regimental review for the National Commander of the American Legion on April 22d and in a regimental review for the Chief Signal Officer on June 15, 1939. Organization Day was celebrated on April 14th.

The battalion pistol team took part in the Interstate-Intercollegiate Pistol Meet conducted by the New Jersey Police at Wilburtha, New Jersey on May 20th.

The battalion competitive drill was held on May 25th. B Company was the winner and was awarded the battalion streamers for the next year.

Plans for participation in the First Army maneuvers at Plattsburg Barracks were completed.

The following officers were assigned to the battalion and joined June 16th:

1st Lieut. Ross T. Sampson (Inf) Signal Corps
1st Lieut. Richard J. Meyer (AC) Signal Corps
1st Lieut. Charles L. Olin (Inf) Signal Corps,
attached to the battalion on June 16th.

50. Fifteenth Signal Service Company: 28 enlisted men were relieved from duty as students at the Signal Corps School and from attachment to company and returned to their home stations.

Two enlisted students from other stations reported and were detailed to the Signal Corps School.

Twenty enlisted students (domestic replacements) were transferred to various other stations.

Six National Guard and 2 DEML instructors (NG) were relieved from duty as students in the Signal Corps School and from attachment to Company.

Six enlisted men were placed on detached service, West Point, as instructors in communications.

At the present time there are 269 men assigned, 55 students, and 1 Ordnance attached, or a grand total of 325 men.

51. First Signal Company: The Company has been principally engaged in preparation for the First Army Maneuvers in August.

There are 35 members of the organization attending the Signal Corps School. They will be relieved in time to attend the summer maneuvers.

The company was host to a group of officers and enlisted men of the 104th Cavalry, Pennsylvania National Guard on March 18, 1939 and to 6 officers and 37 enlisted men of the 244th Coast Artillery, New York National Guard on May 27, 1939. Both groups witnessed an inspection of the personnel and barracks followed by a communication demonstration. Each group had luncheon at the Company before departure from the post.

1st Lieut. David P. Gibbs commanded the Company after the departure on June 1, 1939 of Captain Wiley V. Carter, Signal Corps. On June 16th 1st Lieut. John M. Brown was assigned to the Company. Captain Tyree Horn joined the unit on July 1, 1939.

52. 1st Radio Intelligence Company: During the past quarter, this organization has been engaged in the customary company training and preparation for the First Army Maneuvers at Plattsburg, New York. Concurrent with this training, there have been conducted service tests of the Adcock direction finder, which will receive further tests in the First Army Maneuvers.

Pending issuance of a Training Manual, the company has prepared a manual of instruction covering the use, care and proper handling of the radio direction finder set SCR-206-A, based on field experience.

Also under study is the problem of revising the tactics and technique of the Radio Intelligence Company based on lessons learned in the Third Army Maneuvers in Mississippi in 1938, and in practical exercises conducted during the spring in the Farmingdale, New Jersey area.

The Company, representing the "enemy", participated in Field Exercise No. 2 of the Signal Corps School and was successful in locating most of the CP's that were set up.

1st Lieut. Robert F. Frost was assigned to the Company June 16th.

53. The Signal Corps School: The graduation exercises of the Signal Corps School were held at ten A.M. on June 16, 1939, the following number of officers graduating: 18 Signal Corps, 1 Infantry, 1 Cavalry, 3 Marine Corps, 10 Reserve, 10 National Guard and 1 Philippine Army.

Major General Joseph O. Mauborgne, the Chief Signal Officer, addressed the classes and presented diplomas to all classes except the National Guard. Major General Albert H. Blanding, Chief of the National Guard Bureau, addressed the classes and presented diplomas to the National Guard officers. The exercises were held in the grove south of the barrack area. The speakers' platform and the band stand were gaily decorated with the Signal Corps colors, ferns, palms and flowers. Approximately 300 persons attended the exercises.

The graduation hop was held at the Officers' Club at 9:00 P.M., June 15th.

The following changes have been made in the staff and faculty personnel during the quarter.

Captain Paul Neal has replaced Major Clay I. Hoppough as Director of the Enlisted Men's Department.

Major Garland C. Black has replaced Major H. L. P. King as Director of the Officers' Department.

Captain Samuel S. Lamb has replaced Major Joshua A. Stansell as instructor, Officers' Department.

1st Lieut. Albert J. Mandelbaum has replaced Captain S. J. Keane in the Department of Training Literature.

On June 1, 1939, the strength of the Overseas and Domestic Replacement Pools was as follows:

	<u>Overseas</u>	<u>Domestic</u>
Radio Communication Course	46	31
Wire Communication Course	17	10

54. **Quartermaster Activities:** The projects under construction at this station with Works Progress Administration personnel have progressed satisfactorily during the quarter. Some of the major projects completed or in progress are as follows:

The interior painting of the Officers' Club and bachelor officers' building have been completed.

Waterproofing of the light tunnel in the Signal Corps Laboratories has been completed.

One application of bituminous concrete has been applied to Leonard Avenue on the section between Oceanport Avenue and the Quartermaster Area.

The surface treatment of Gosselin Avenue with tar and crushed stone for the entire section of this avenue between the concrete part and the west gate has been accomplished.

All heating plants on the post are being overhauled.

1500 trees on this reservation have been pruned and balanced by tree surgeons. Approximately 1500 trees remain that need attention.

A 1000 gallon hot water storage tank and larger heater have been purchased for the 15th Signal Service Company. This capacity tank will adequately provide for the bathing facilities for the 300 men quartered in this barracks.

55. Constructing Quartermaster Activities: The strike which had delayed the progress of the new 125 men barracks was settled at the end of March. With good weather conditions progress on the building has since been very rapid. The structure as a whole is now about 75 per cent complete. Except for there being no glass in the windows and the scaffolding being still in place, the exterior is virtually complete. Plastering is going on throughout the interior while painting and glazing are being done on the exterior.

The W.P.A. project in conjunction with the barracks is now complete. All funds have been expended. During the past quarter the long projected concrete road for the barracks area was constructed. Aprons to the rear of the barracks building are included. As much of the proposed curb as would not interfere with access to the barracks parking areas was also put in place. Due to the lack of funds only rough grading has been accomplished.

56. Thomason Act Officers: The final examination in branch and common subjects was given at this station during the first week in April. All Thomason Act officers on duty at this station except one took the examination. As a result of this examination and efficiency reports rendered on all candidates, Lieutenants Glen S. Waterman and Robert R. Christofk have been given permanent commissions as 2d Lieutenants, Signal Corps, Regular Army.

All extended active duty periods have been terminated as of June 30, 1939 and each officer has been ordered home. It is expected that Lieutenants Waterman and Christofk will be assigned to this station.

The Thomason Act quota for the Signal Corps for the fiscal year 1940 is 26. Officers for next year will arrive at Fort Monmouth between July 5 and 10, 1939.

57. Miscellaneous: The Chief Signal Officer paid an official visit to the post during graduation week. He received the salute and inspected the Guard of Honor in front of Russel Hall at 9:00 A.M. June 15, 1939. A garrison review was held in his honor on the south athletic field at 2:30 P.M. on that date.

The Corps Area Inspector General completed the annual inspection of the post during the first week of April. As a result of the annual inspection of Fort Monmouth, the Commandant has again been commended for the excellence of the administration of all post activities.

The Corps Area Auditor, Captain Dresden J. Cragun, completed the annual audit of all property accounts at Fort Monmouth during June and stated that he found all accounts in excellent condition.

The Signal Corps Band took part in the ceremony held recently at Fort Hancock in honor of the King and Queen of England when they passed through that station. The Commanding General, 2nd Corps Area, has expressed his personal appreciation to the Commanding Officer of Fort Monmouth for his help and cooperation and for that of his subordinates in this connection.

Major H. H. R. King, Signal Corps, is replacing Major Frank E. Stoner as Executive Officer when the latter departs from Fort Monmouth on July 3, 1939. Captain G. F. March, Signal Corps, was made Post Adjutant and Recruiting Officer on June 20th.

The mobile public address system, Tech. Sergeant Howard Dovey in charge, departed from Fort Monmouth June 7th for Washington to participate in the Army War College exercises. The functioning of the equipment and conduct of personnel was of such nature that the following letter from the Commandant of the Army War College, addressed to the Chief Signal Officer, dated June 19, 1939, is quoted:

"I desire to thank you for your cooperation in supplying the mobile public address system for the historical ride just completed by The Army War College. This equipment covered nearly 1200 miles and functioned to our entire satisfaction, playing a vital part in the successful conduct of the Exercise.

"I also wish to make of record with you the efficient services of Tech. Sergeant Howard Dovey, R-55548, Pfc. Charles B. Moore, 6706991, and Pfc. R. E. Francis, 6663447, all of the 15th Signal Service Company. Their cheerfulness, efficiency and attention to details gave us the superior service we had hoped for."

58. Visitors to Post: On April 22, 1939 the Honorable Stephen F. Chadwick, National Commander of the American Legion, visited Fort Monmouth. A garrison review was held in his honor. At the conclusion of the ceremony the National Commander was introduced by the Commandant and addressed the troops and the assembled crowd. The new public address system was used on this occasion and operated most efficiently. Approximately 2000 people attended the review. After the review Commander Chadwick and his party had luncheon at the Officers' Club.

Approximately 300 members of the United Women's Club of Monmouth County visited Fort Monmouth on May 19, 1939. They were shown through the Enlisted Division of the School, the Pigeon Training Center, and inspected the mess hall, kitchen and recreation room of the 15th Signal Service Company. A battalion parade was held for them on the south athletic field.

Lt. Col. R. T. Pendelton, C.A.C., Director of the Coast Artillery School, visited Fort Monmouth on April 25th. He inspected the enlisted division and discussed methods of training with the Assistant Commandant.

Major General Archibald H. Sunderland, Chief of Coast Artillery, visited this station on April 27th.

Captain G. A. King, Instructor Corps, South African Permanent Force, visited the Signal Corps School on April 28th and 29th.

XIII

ALASKA COMMUNICATION SYSTEM

59. In checking the traffic handled by the System during the month of March 1939, it was found that a record unique in the history of the System had been made. A total of 146,447 messages was handled without a single error being recorded at any A.C.S. station. Pfc. Albert R. Bech at Seattle established a new individual record in May when he handled a total of 6169 messages without an error.

60. The Army Day program on April 2, 1939, over the N.B.C. Magic Key broadcast included a brief interview between the Chief of Staff, speaking from New York City, and Major Lewis W. Anis, Commanding Officer, Chilkoot Barracks, Alaska, speaking from the Alaska Communication System office at Juneau.

A broadcast from Juneau on May 30, transmitted to Seattle over the radiotelephone facilities of this System, featured members of the Seattle Chamber of Commerce Goodwill Tour of Alaska. The program was rebroadcast at Seattle by station KOMO.

61. The Officer in Charge of the System proceeded to Washington on May 18 for discussion of various matters affecting the System and the Territory of Alaska. He returned to Seattle on June 11.

62. Captain Robert B. Woolverton, Signal Corps, was on an inspection trip of Alaskan stations from May 6 to May 24, 1939.

63. On April 12, 1939, work began on C.C.C. projects at Anchorage, which include painting the exterior of the quarters building and garage at the transmitter station and the two city quarters buildings, constructing a new cesspool at the transmitter station, cutting and erecting poles for transmission lines and antennas

On May 19, 1939, the C.C.C. started repainting the exterior of all Signal Corps buildings at Fairbanks. A fence was also constructed at the radio station by C.C.C. labor.

64. Coal stokers of the hopper type were installed in the two city quarters buildings at Anchorage on May 4, 1939.

New technical equipment installed at Anchorage during the quarter includes four medium frequency receivers and a two kilowatt medium frequency transmitter. An exciter keyer unit was installed in the BC-147 transmitter and other modifications made to improve its operation.

65. A new medium frequency receiver and an audio oscillator were installed at Juneau during the quarter.

66. The foundation of the gasoline storage building at Kanakanak was repaired. One highfrequency receiver and one medium frequency receiver were installed. Work is now under way on the erection of a diamond receiving antenna.

67. Equipment to provide battery operation was installed at Kotzebue on May 31, 1939.

68. The April 24, 1939, issue of the Fairbanks Daily News-Miner carried an article highly commending the service of Technical Sergeant Charles E. Smith, Signal Corps, on the occasion of his relief from duty as Operator in Charge at Fairbanks and transfer to Seattle.

69. Mr. Sgt. Stanley K. Morgan, Operator in Charge at Point Barrow, was granted a furlough from March 23 to April 21 to go on a hunting expedition to obtain a supply of fresh meat. During his absence, radio communication was suspended except for one daily weather schedule, which was handled by Mrs. Morgan.

70. Radio Electrician Vergne L. Hoke was ordered from permanent station at Juneau to Valdez on temporary duty in May to inspect, adjust, and repair technical equipment at that station. A new medium frequency receiver was installed at Valdez on June 4, 1939.

71. The W.P.A. project of oiling the roads at the West Seattle transmitter station was completed.

72. A direct circuit from WVD Seattle to Wat Washington was placed in operation on April 3, 1939.

73. A new diamond transmitting antenna, bearing on San Francisco, is being constructed at West Seattle.

74. Professor A. V. Eastman and fifteen students of his electrical engineering class, University of Washington, visited the transmitter station at West Seattle on May 27, 1939.

75. Action has been initiated to close the road across the West Seattle transmitter station reservation to use as a public thoroughfare. On May 25, 1939, Major Mark W. Clark, G-2, Fort Lewis, and Captain Herbert B. Loper, 6th Engineers, Fort Lawton, made an investigation of the premises preparatory to presenting the matter to the Commanding General, Ninth Corps Area.

Clyde L. Eastman

Clyde L. Eastman
Colonel, Signal Corps,

Acting Chief Signal Officer of the Army.